

Investigation: Wild Rice Standards Study 2012 Field Survey and 2011 Preliminary Field Survey

Purpose: The purpose of the 2012 Wild Rice Standards Study Field Survey was to characterize the natural environments in lakes, rivers, paddies with wild rice, or sites with suitable wild rice habitat. Survey data will be used in development of other study phases and to provide the MPCA with information about correlations between wild rice presence and environmental parameters for standards revision consideration.

The 2011 survey of 52 sites was a preliminary effort to collect initial data on wild rice stands and to develop the methods for a larger field survey of 112 sites in 2012.

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Approach: Dr. Myrbo worked with MPCA staff to select potential sample sites within lakes, rivers, wetlands, and cultivated wild rice paddies using information provided by stakeholders, and data on the chemistry and distribution of wild rice waters and other shallow water bodies. For statistical purposes of investigating potential relationships between sulfate and wild rice growth, the team looked for sites with a range of values in both parameters (i.e., low-sulfate/low-rice, low-sulfate/high-rice, high-sulfate/low-rice, and high-sulfate/high-rice). Sites were sampled across the state, and included sites that have drainage of waters high in sulfate into wild rice waters. In contrast to site selection in the 2011 survey, the 2012 survey sampled habitat that appeared suitable for wild rice growth, but with no evident wild rice.

At each site, two-person sampling crews collected sediment cores and water samples, conducted plants surveys, and took photos. Sediment cores were immediately sampled for porewater (the water found in spaces between sediment particles). The roots of plants may be particularly affected by the chemistry of porewater. Water samples, sediment cores, and porewater are analyzed for a variety of environmental parameters.

Accomplishments To Date:

- Sampled 52 sites as part of the 2011 Preliminary Field Survey
- Sampled 112 sites between July 22, 2012 and September 21, 2012
- Sites included lakes, rivers, and paddies with a range of sulfate values
- Developed field protocols in conjunction with MPCA staff
- Developed relational database to store survey results
- Worked with MPCA staff to establish field sampling sites in MPCA's EquIS database and transfer survey results

Next Steps/Gaps: Additional field survey work in 2013 may include:

- Repeated sampling of one or more sites from May to September to better understand seasonal changes in porewater chemistry.
- Sampling of a few sites of particular interest.